Goldman Sachs

US Elections and Implications for the Economy and Asset Classes

August 14, 2024

Wealth Management

Candidate Positions

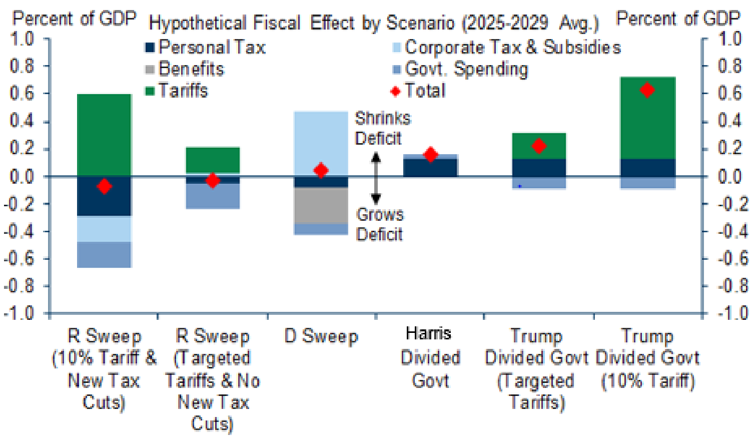
Goldman Sachs

	Donald Trump	Kamala Harris
Tax Policy	Extend and possibly expand 2017 tax cuts	Extend 2017 personal income tax cuts for those earning less than $400k per annum after 2025. Increase the top rate to 39.6% Corporate: Proposed 28% from 21% Wealth: Proposed a "Billionaire Minimum Income Tax" - 20% minimum tax rate on "full income, including unrealized appreciation"
Spending	Would cut domestic spending, but not cut "a single penny" from Medicare or Social Security	Expand education, health care, and other programs
Trade Policy	10% across-the-board tariffs, 60% China tariffs, Trump Reciprocal Trade Act	Some tariffs, export controls, entity list additions, investment restrictions
Immigration Policy	Tighten: "largest deportation operation in American history"	Implemented new border policies, would likely pursue much of the Senate's bipartisan border agreement

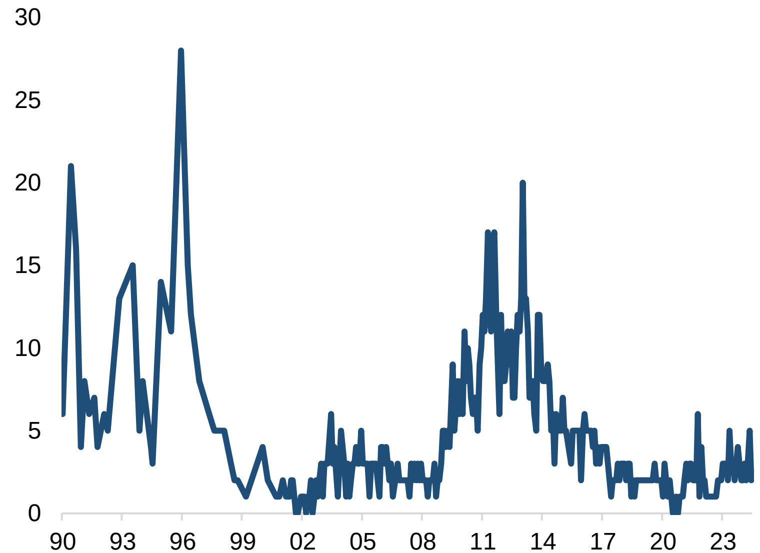
Source: Goldman Sachs Global Investment Research, Agenda 47, Investment Strategy Group.

1. Minimal change to the fiscal stance in the near term

1. Fiscal impact by election scenario



2. % who regard debt/deficit as the 'most important problem'



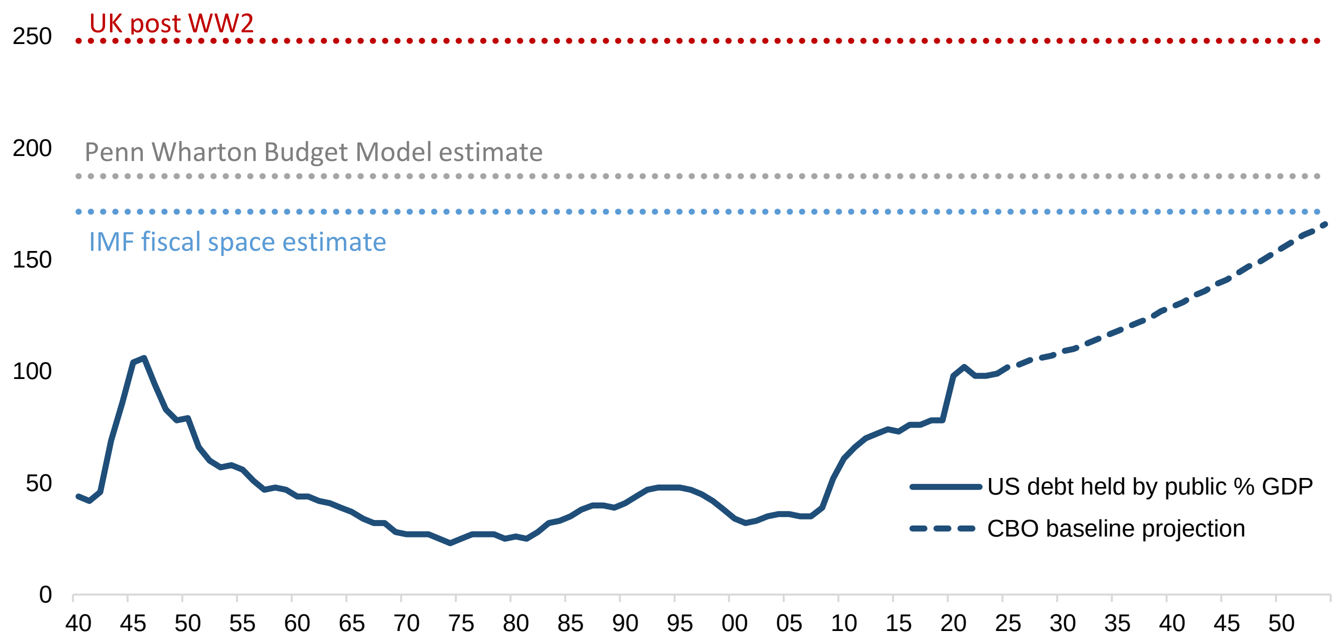
- Large changes to the deficit after the election are unlikely. Any fiscal impulse is likely to be muted and deferred beyond 2025.
- The extent to which the 2017 Tax Cuts and Jobs Act (TCJA) is extended after the end of 2025 is the most important near-term issue.
- 'Sweeps' have the most potential for fiscal expansion. A Republican sweep would likely fully extend 2017 tax cuts. A Democratic sweep would likely fund new spending with tax hikes for corporations and high-income individuals.
- Divided government is more likely to bring fiscal restraint. Some TCJA tax cuts are likely to expire, resulting in small deficit reduction.

These forecasts are estimated, based on assumptions, and are subject to significant revision and may change materially as economic and market conditions change. Source: Investment Strategy Group, GIR, Gallup, Haver Analytics

A ‘tipping point’ for government debt is highly uncertain, but probably a long way off

Goldman Sachs

US government debt % GDP vs potential ‘unsustainable’ thresholds



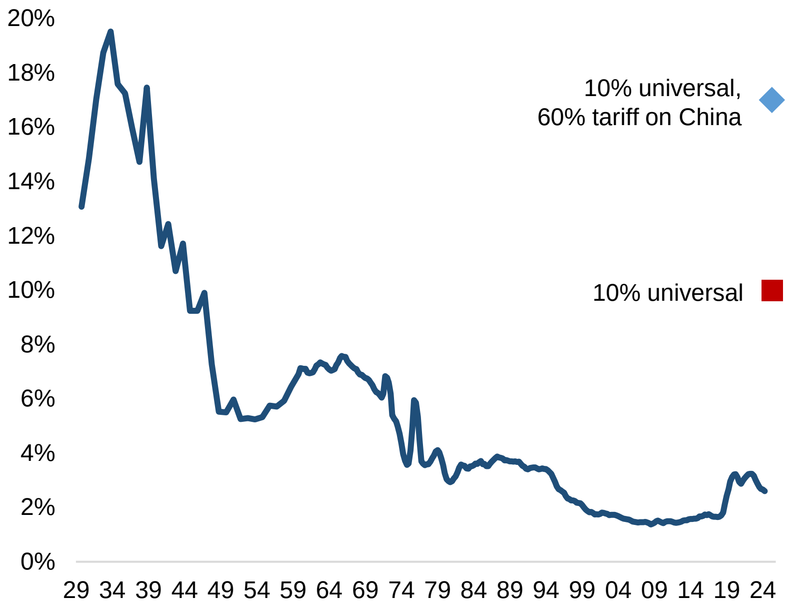
- Identifying the tipping point for Federal debt is highly uncertain, but we don’t expect it to be a major issue for the next President.
- Analysis from the Wharton Budget Model estimates debt-to-GDP would have to reach 175-200% to become truly unsustainable. An IMF Research paper estimates a debt limit of 160-183%. The UK’s debt to GDP ratio reached 250% GDP after World War 2.
- The US debt burden currently stands comfortably below these thresholds. However, markets are forward looking, and the risk of market pressure rising could build if these thresholds are projected to be reached within a more investible horizon.

These forecasts are estimated, based on assumptions, and are subject to significant revision and may change materially as economic and market conditions change.
Source: Investment Strategy Group, Haver Analytics, CBO, Penn Wharton Budget Model, Bank of England, IMF Staff Position Note: D’Ostry et. Al. (2010)

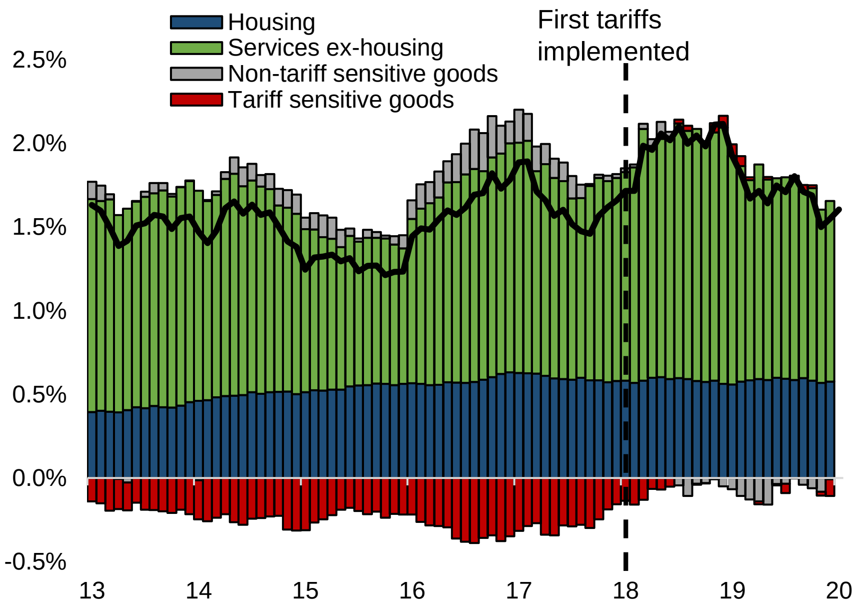
2. Tariffs are likely the most immediate issue in a Trump presidency

Goldman Sachs

1.US effective tariff rate, with Trump proposals



2. Contribution to core PCE (yoy%)



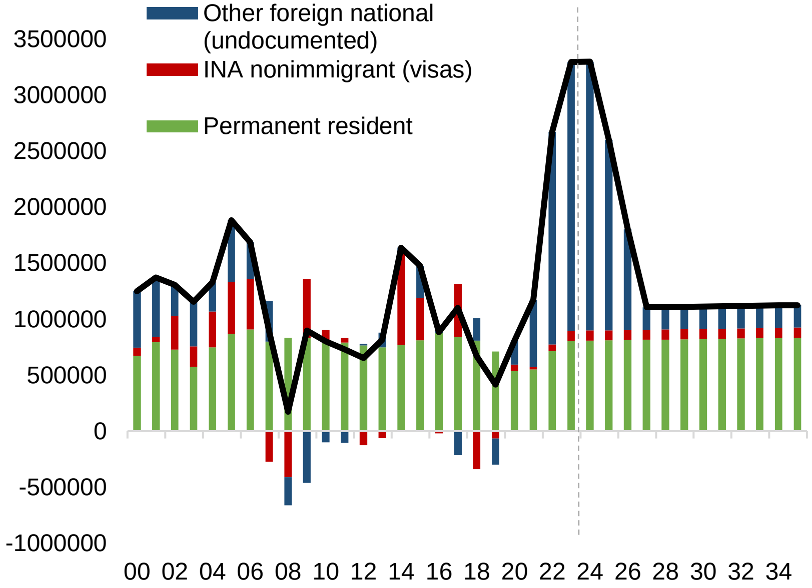
- During the last Trump administration, the US effective tariff rate increased from 1.7% to 3.2%. The impact on overall inflation was muted, and short-lived.
- Trump's tariff proposals are much bigger this time around, but there is significant uncertainty over the size and scope implemented. GIR estimates each 1pp increase in the effective tariff rate would increase the price level by 0.1% and decrease GDP by 0.1%.
- Trade policy uncertainty could weigh on growth even if large tariffs are not imposed.
- Tariffs that meaningfully affect prices could lead the Fed to pause a cutting cycle. However, a negative impact on growth could ultimately result in a lower terminal rate.

Source: Investment Strategy Group, BEA, Census Bureau, Haver Analytics,

3. Net immigration likely to fall under any scenario

Goldman Sachs

1. Net immigration with CBO projections



2. Scenarios for annual net immigration

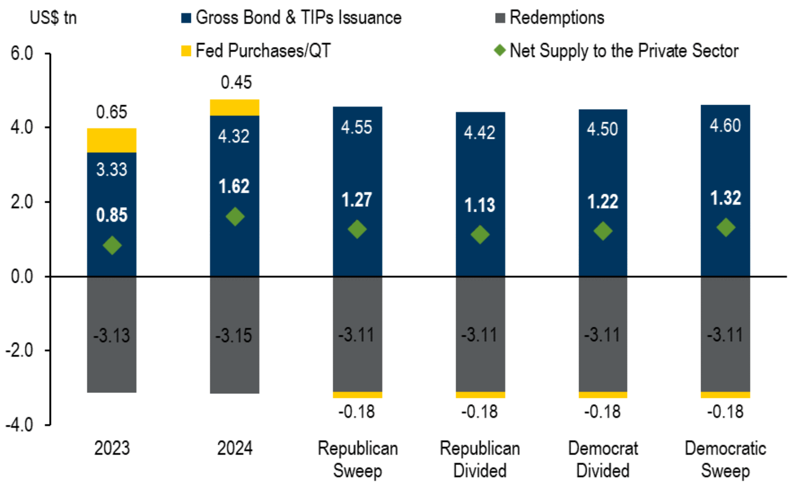
	Deportations	Pre-pandemic	Limited deal	Rapid
Net immigration	0	800,000	1,500,000	3,000,000
Payrolls breakeven	45,000	85,000	120,000	200,000
Potential growth	-0.3%	-0.1%	-	+0.3%

- The CBO estimates that net immigration exceeded 3 million last year, significantly higher than the 2010-19 average of 900,000.
- There is bipartisan support for a border agreement, suggesting immigration should fall under either administration. Net immigration is unlikely to turn negative under Trump, even with a deportation program.
- Lower immigration would weigh on potential growth, subtracting roughly 0.1% for each 500k reduction. Breakeven payrolls growth would decline by roughly 25k for each 500k reduction.
- Under most scenarios we expect the impact on inflation to be limited as the labor market is currently well-balanced, and demand and supply are likely to be affected similarly. Severe and abrupt deportation schemes would mean upside risk.

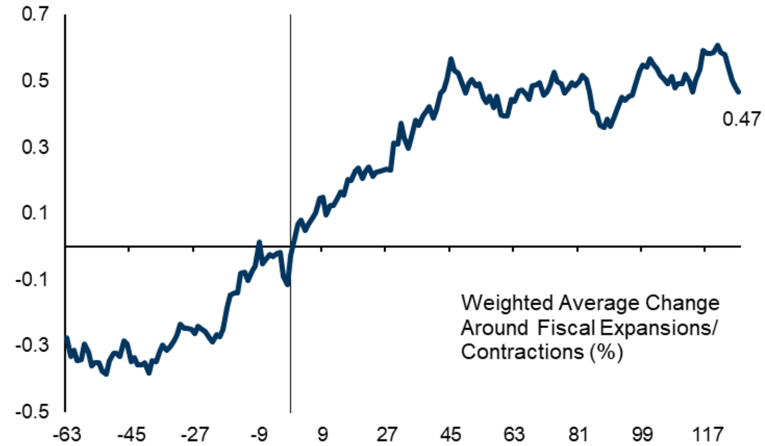
Source: Investment Strategy Group, CBO, Brookings Institution, Haver Analytics.

Fiscal Policy – Quantifying the Impact

1. ISG US Bond Supply Outlook, with Budget Deficit Scenarios[1]



2. Absolute Change in the US 10yr Bond Yield around discretionary shifts in the US Primary Deficit, scaled to 1% of GDP[2]



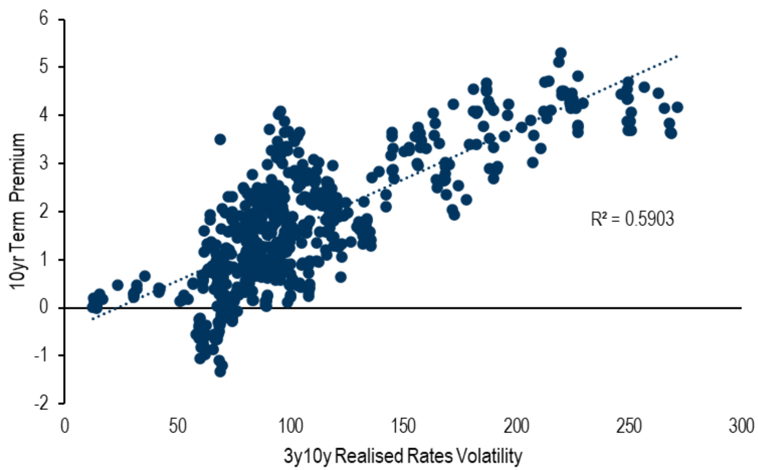
- During this presentation, we assess the 4 main areas the US election is likely to impact the US rates markets, which in our view are potential shifts in fiscal and monetary policy, policy uncertainty and finally the impact from tariffs if the Republican party wins the presidency.
- Starting with fiscal, it's worth highlighting that the outlook for US net government bond supply is favourable going into 2025. Given the increases in bond auctions sizes, our base line view is that bond auction sizes are unlikely to increase until November 2025. At the same time, the Fed is likely to start reinvesting maturing mortgage-backed securities (MBS) into Treasuries once QT ends, as it did in 2019, which taken together, should result in materially lower government bond supply.
- Set against this, the fiscal changes our colleagues in Global Investment Research (GIR) are forecasting are quite small. Even if we assume the Treasury responds to an increase in budget deficits under a sweep by increasing bond supply, the largest increase in bond supply relative to our baseline expectation ($60bn) would come in a Democratic sweep scenario, which has a relatively small impact in our Term Premium models, compared to the $630bn swing in Federal Reserve purchases/QT.
- A second approach is to use our typical fiscal elasticity, which suggests a 1% change in the primary deficit has on average resulted in a 45bps move in the US 10yr Bond Yield after 6-months. Based on GIR's estimates, this elasticity would suggest a +/- 10-20bps move in the US 10yr Bond Yield. Even though GIR forecast small fiscal changes in a Republican Sweep, we believe markets will price some risk premium for the possibility of more aggressive fiscal changes in this scenario.

Past performance is not indicative of future result, which may vary.
These forecasts are estimated, based on assumptions, and are subject to significant revision and may change materially as economic and market conditions change. Source: Bloomberg, Investment Strategy Group, Haver, CBO, GIR. [1]The projections in this chart assume that the Treasury responds to changes in the deficit by increasing bond auction sizes earlier or later vs our baseline expectation of November 2025. [2]We take 13 instances of discretionary changes in US fiscal policy and plot the weighted average market move, with weights set according to the projected change in the deficit by the CBO.

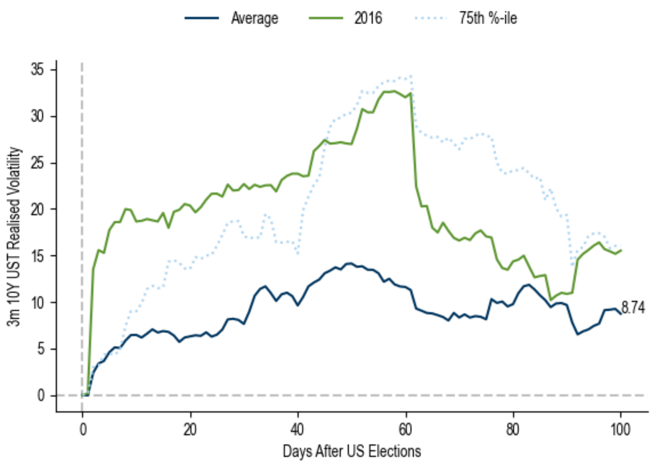
Policy Uncertainty – Quantifying the Impact

Goldman Sachs

1. 10yr Term Premium vs 3y10y Realised Rates Volatility



2. Realised Rates Volatility around US Presidential Elections



- A somewhat underappreciated impact on the rates market from the US election is the potential for a starkly different magnitude of policy uncertainty in a Republican vs Democratic win. Whilst a Democratic win would likely result in a large degree of policy continuity, uncertainty over trade policy, the magnitude of fiscal shifts, immigration policy, as well as potential uncertainty over attempts to influence with Fed Policy, are all likely to be higher in a Republican win.
- The likelihood of very tight margins in the House and Senate is likely to keep the systems of checks and balances, such as the Filibuster, in place, preventing very large policy changes, which caps policy uncertainty to an extent. Additionally, the market may now be more familiar with Trump's policymaking style.
- Term premium is the compensation that investors receive for the uncertainty that policy rates will evolve differently to their expectations, in exchange for locking in long-term rates at fixed levels. Meanwhile, rates volatility also tends to increase during periods of uncertainty, so the two are closely correlated.
- Given the likelihood of increased uncertainty under a Republican presidency, for the reasons outlined above, we would expect rates volatility to pick up in the event of a Republican win, putting upward pressure on Term Premium.
- As shown in chart 2, realised rates volatility picked up sharply in 2016, and we would expect a similar magnitude of increase this time around in a Republican sweep, putting 10bps of upward pressure on the 10yr US Bond Yield relative to our year-end target.

These forecasts are estimated, based on assumptions, and are subject to significant revision and may change materially as economic and market conditions change. Source: Bloomberg, Investment Strategy Group.

Tariffs – Quantifying the Impact

Goldman Sachs

1. Front-end inflation swaps

Current	**Market Pricing**	**Fair Value Republican**	**Diff**
1yr	1.86	2.16	0.30
1y1y	2.31	2.64	0.33
2yr	2.08	2.40	0.32
10yr BEIs	2.11	2.26	0.15
Year-End			
1y	1.86	2.14	0.28
1y1y	2.31	2.89	0.58
2y	2.08	2.51	0.43
10y BEIs	2.11	**2.30**	0.18

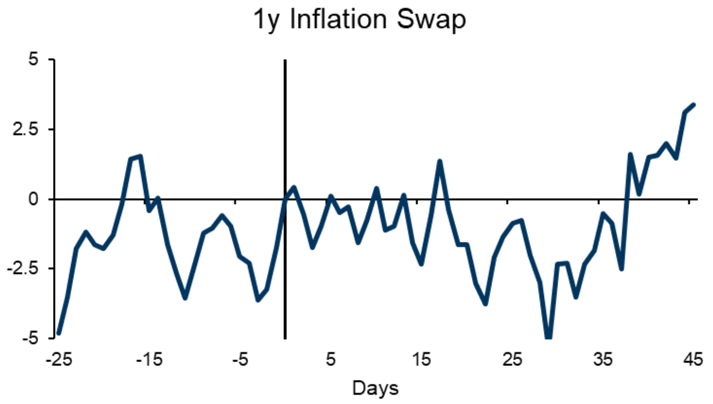
2. ISG 10yr breakeven inflation expectations model

- The final policy area we consider is the potential market impact of tariffs, using two separate approaches. Firstly, using estimates from our US economist for the inflationary impact of tariffs, we calculate the fair value for various front-end inflation swaps, which are directly tied to headline CPI inflation.
- From here, we can estimate the expected move in 10yr breakeven inflation expectations in the event of a Republican win, which we calculate as 2.30%.
- Secondly, we use our long-end breakeven model, which is based on a series of financial market and macro variables, including short-term consumer inflation expectations. We assume that by the end of this year, consumers are fully anticipating the 0.6% probability weighted 2yr annual average boost to headline inflation that we anticipate from tariffs in the event of a Republican win.
- We view this as a somewhat conservative increase, as there is evidence[1] that consumer inflation expectations are less well anchored given the sharp recent rise in inflation, suggesting we could see a larger increase in inflation expectations for a given magnitude of tariff increases.
- In any case, the average of these two approaches would suggest scope for around 20bps of upward pressure on 10yr Breakeven Inflation Expectations relative to current levels.

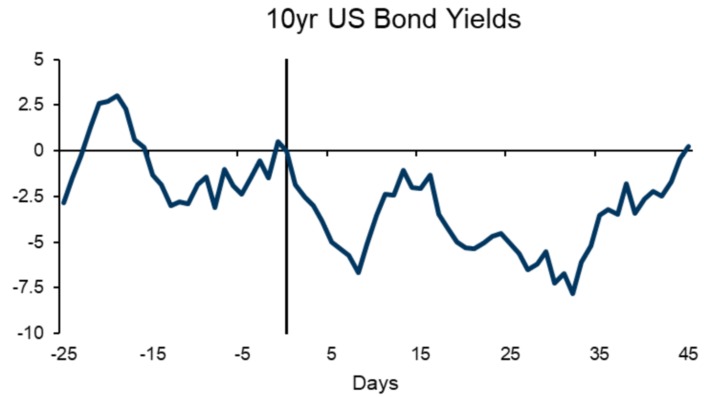
[1]For example, there is a large upward skew in the University of Michigan inflation expectations survey.
These forecasts are estimated, based on assumptions, and are subject to significant revision and may change materially as economic and market conditions change. Source: Bloomberg, Investment Strategy Group.

Tariffs – Historical Analysis

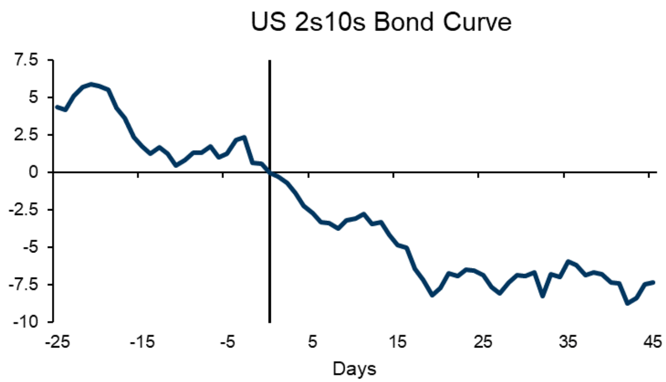
1. USD 1yr Inflation Swaps – Average Movement Around Tariff Threats



2. 10yr US Bond Yield – Average Movement Around Tariff Threats



3. US 2s10s Bond Curve – Average Movement Around Tariff Threats

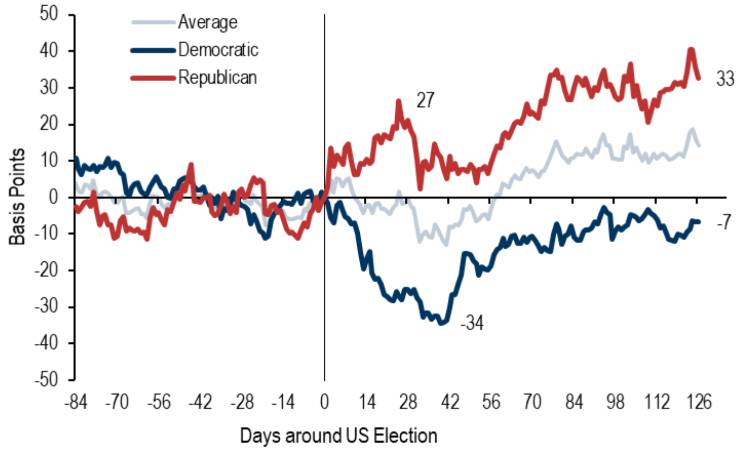


- Looking back at the average performance of US fixed income markets around the 2017/2019 trade war reveals that the clearest market impact was curve flattening.
- Short-dated inflation swaps, which in theory should be most sensitive to the inflationary impact of tariffs, saw a muted reaction, ending only slightly higher in the 2-months after tariff threats. US 10yr Bond Yields initially fell but the impact proved fleeting.
- Curves flattened reasonably aggressively, which makes intuitive sense. The FOMC is likely to lean against the inflationary impact of tariffs if they become concerned about inflation expectations, pushing short rates higher. Meanwhile, longer-term forward rates are pulled lower by the drag on long-run growth potential and term premium compression due to the anticipation of lower supply from tariff revenues.
- Given that the magnitude of the potential tariffs this time around is materially larger, we expect more upward pressure on inflation swaps and bond yields this time around as highlighted on the previous page, but agree with the historical evidence that tariffs will have a sharp curve flattening impulse.

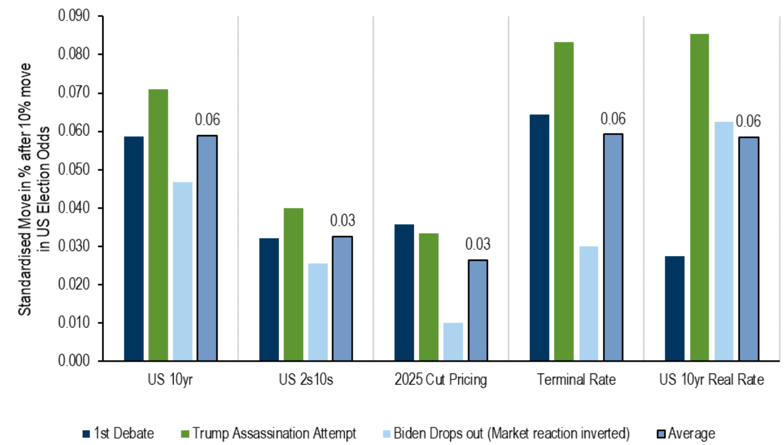
Past performance is not indicative of future result, which may vary.
These forecasts are estimated, based on assumptions, and are subject to significant revision and may change materially as economic and market conditions change. Source: Bloomberg, Investment Strategy Group, PIIE.

US Election Rates Market Impact – Historical Analysis

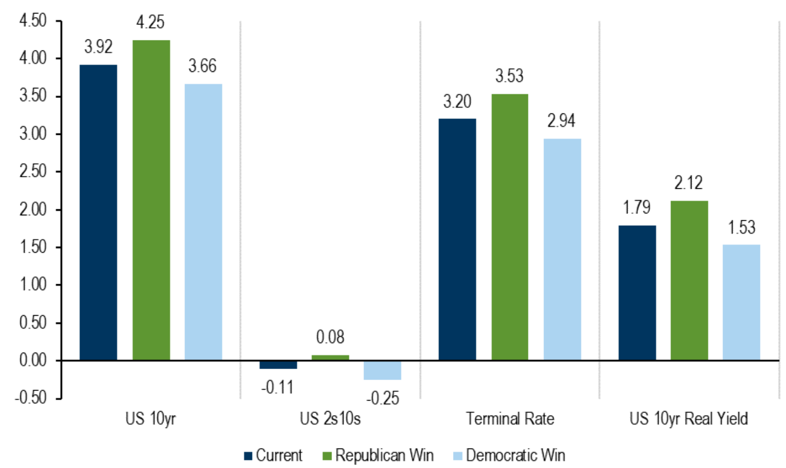
1. US 10yr Bond Yield performance around US Elections



2. Market Reaction around outsized moves in US Election Odds, standardised to gauge the impact of a 10% shift in odds



3. Market Implied Levels applying Election Elasticity to current levels



- US Bond 10yr Yields tend to trade in a rangebound fashion in the 3-4 months ahead of US elections (see chart 1).
- After Republican Presidential victories, 10yr US Bond Yields have a tendency to rise, by an average of 33bps in the 6-months after a Republican win. After Democratic Presidential victories, 10yr US Bond Yields tend to fall, troughing at a 34bps fall in the 2-months after a Democratic win.
- Looking at more recent market moves around key shifts in betting odds reveals a very consistent market reaction, with US yields moving higher, led by real rates, and curves steepening in response to an increase in Republican winning odds, and vice versa. This suggests markets are placing more weight on fiscal shifts rather than the tariff impact, however we believe the latter is more important.
- We should be cautious about extrapolating current market reaction without extreme scrutiny, however as an indication, chart 3 shows the market implied levels by applying the elasticities in chart 2 to current market levels.

Past performance is not indicative of future result, which may vary.
Source: Bloomberg, Investment Strategy Group

ISG Election Scenarios for US Yields

	Democratic Sweep	Divided Government - Democratic President	Divided Government - Republican President	Republican Sweep
Monetary Policy Pricing	Markets are pricing slightly less cuts for 2025 vs our base case, to a slightly higher terminal rate.	Markets are pricing our baseline forecast for 2025 market cut pricing (i.e. pricing 125bps of cuts)	Markets are pricing less cuts for 2025 vs our base case, to a higher terminal rate.	Markets are pricing notably less cuts for 2025 vs our base case, to a notably higher terminal rate.
Fiscal Policy Impact	+10bps on 10yr	-5bps on 10yr	-20bps on 10yr	+5bps on 10yr
Policy Uncertainty Impact	-	-	+5bps on 10yr	+10bps on 10yr
Tarrif Impact on Inflation Breakevens	-	-	+20bps	+20bps
Impact on Year-end 10yr Forecast[1]	+15bps	-5bps	+15bps	+45bps
Impact on Year-end 2yr Forecast	+10bps	-	+40bps	+50bps
Impact on Year-end 2s10s Forecast	+5bps	-5bps	-25bps	-5bps

- In the table above, we bring together the impact of the 4 key policy areas that we have discussed in this presentation for different election scenarios.
- Following the addition of an FOMC cut, we currently believe the US 10yr Bond Yield is more likely to end up towards the bottom end of our year-end target range, around 3.85%. We believe a Democratic divided government will result in market pricing across the curve being very close to our base case forecast.
- We believe a Republican presidency will put upward pressure on the US 10yr Bond Yield, as (i) tariffs result in shallower market cut pricing and (ii) higher long-run inflation expectations. However, the curve is likely to flatten relative to forwards as the first effect dominates, and as fiscal policy has a smaller impact.
- **Given the relatively small election related impacts in most scenarios, we still recommend that clients stay invested in high quality fixed income in line with our strategic duration recommendation, which for a US taxable moderate portfolio is 4yrs.**

These forecasts are estimated, based on assumptions, and are subject to significant revision and may change materially as economic and market conditions change. Source: Bloomberg, Investment Strategy Group.
[1]The total impact on the 10yr includes the impact of Monetary Policy Pricing + Fiscal Policy impact + Policy uncertainty + Tariff Impact.

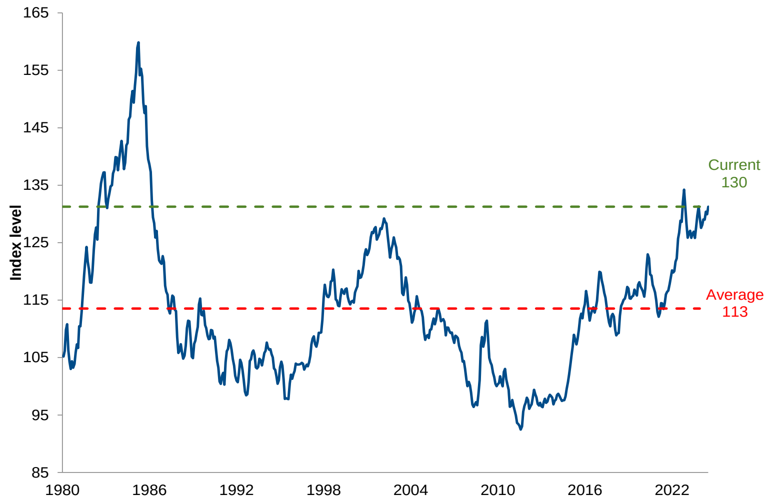
The Dollar and the US Election

Goldman Sachs

1. Potential Impact on the Dollar Given Election Outcome

	Democratic Sweep	Divied Government Dem President	Divied Government Rep President	Republican Sweep
Trade Policy	Balanced	Balanced	Positive	Positive
Fiscal Policy	Positive	Balanced	Balanced	Positive
Perception of Fed Independence	Balanced	Balanced	Modest Negative	Modest Negative

2. US Dollar Real Effective Exchange Rate

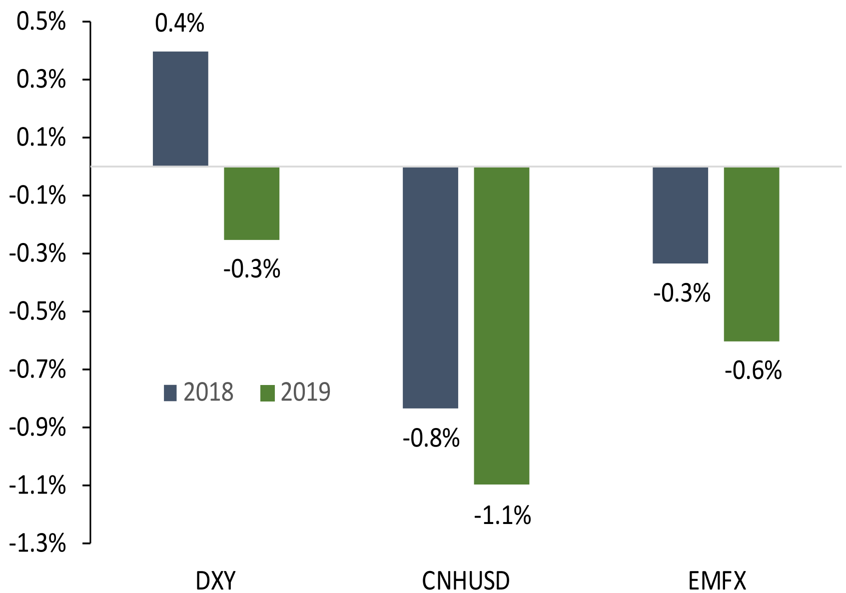


- Several fiscal and trade policy proposals being discussed during the presidential campaign have the potential to support the dollar. On the other hand, Republican critiques of Fed independence represent greenback headwinds.
- **Trade Policy:** Higher US tariffs on the rest of the world could lead foreign authorities to allow a depreciation of their respective currencies or weigh on economic activity abroad. Both outcomes have the potential to reinforce dollar tailwinds, although the scope will vary based on retaliatory tariffs imposed back on the US.
- **Fiscal Policy:** Both the Democrat and Republican candidates are campaigning on a mix of increased spending and tax cuts that are fiscally expansive. A sweep of both the White House and US Congress by a single party maximizes the likelihood their respective policy objectives become law. Consequently, higher growth and domestic monetary policy represent dollar tailwinds if either party successfully sweeps.
- **Perception of Fed Independence:** While we expect Fed independence to persist, Trump has repeatedly articulated a preference for lower policy rates and greater input from the Executive branch which may diminish the dollar's appeal.
- The dollar's valuation stands above its long-term average which sets the bar low for dollar-unfriendly surprises.

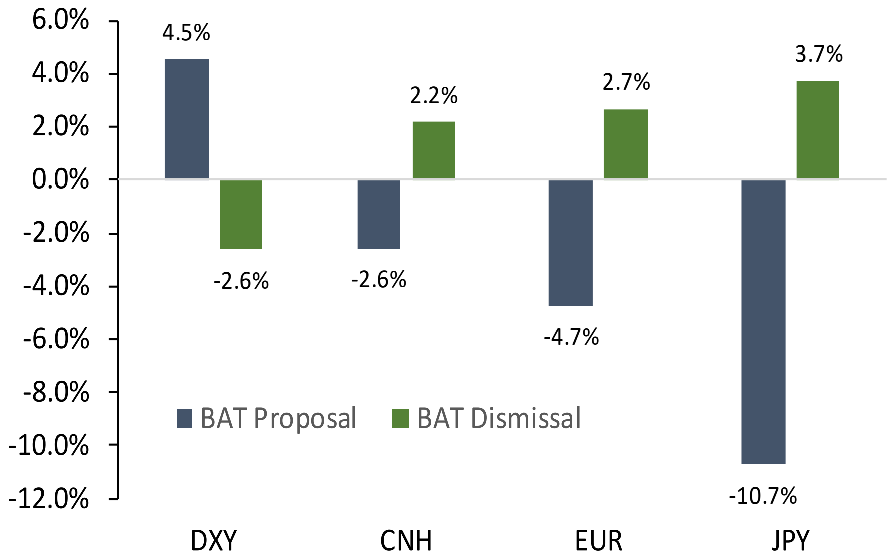
Source: Investment Strategy Group, Bloomberg, MS, GIR.

Risk of Tariffs Generally Represent a Dollar Tailwind Although the Fed's Response Matters

1. Market Reactions to US-China Punitive Trade News During Trump Administration(1)



2. FX Performance Around 2016 Proposed Border Adjustment Tax(2)

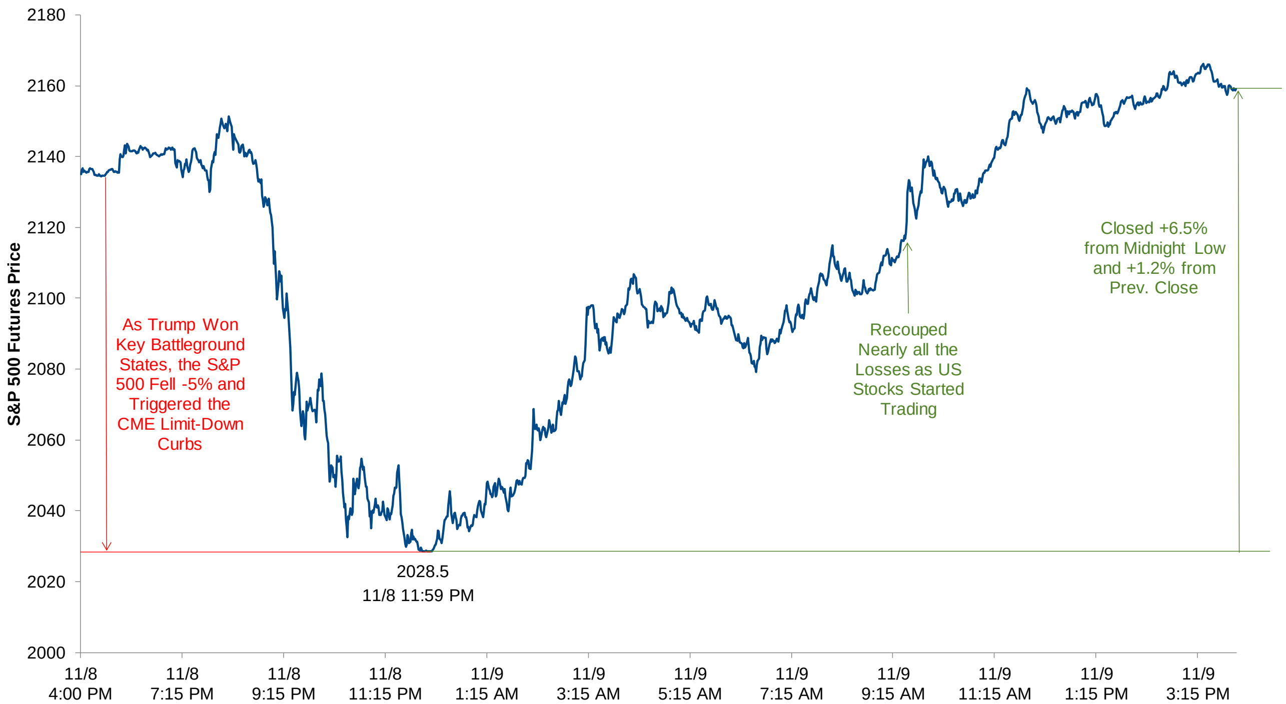


- An escalation in retaliatory trade policy represents a potential tailwind for the dollar, however domestic monetary policy remains a key variable.
- Economic theory argues that higher US tariffs will drive dollar strength. This impulse was consistent during the opening stages of the 2018-19 trade wars, however persistent threats evolved into dollar headwinds as the Fed warned of disinflationary knock-on-effects.
- Similarly, the dollar enjoyed a powerful tailwind while a border adjustment tax (BAT) was considered immediately following the US 2016 election. Those dollar gains partially reversed after the incoming administration abandoned the plan.

1. Average one day currency performance following escalatory trade announcements.
2. BAT Proposal period is 11/7/2016 – 12/30/2016. BAT Dismissal period is 1/2/2017 – 1/31/2017. Performance versus the US dollar except DXY.
Past performance is not indicative of future result, which may vary.
Source: Investment Strategy Group, Brookings Institute, PIIE, Bloomberg.

Even if we Knew the Election Outcome With Certainty, the Market Reaction Can Often Run Counter to Consensus Fears

2016 Election Night Trading: S&P 500 E-Mini Futures Price

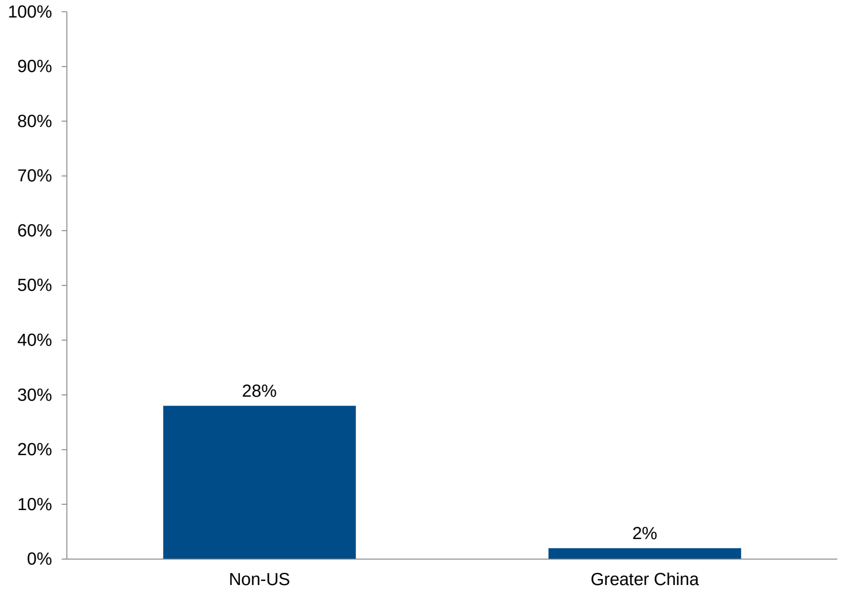


- As election results during the evening of November 8, 2016 pointed to a Trump victory, S&P 500 futures plunged -5% and triggered CME limit-down curbs.
- Yet as investor focus shifted from the prospects for acrimonious trade policies to the likelihood of market-friendly tax cuts and deregulation, the S&P 500 quickly reversed those losses and ended the next day with a gain.
- The mix of policies—tax, regulation, trade and immigration—are again likely to influence the market following the election, but whether the economy avoids a recession over the next year will be a far more important driver of the market.

Past performance is not indicative of future result, which may vary.
Source: Investment Strategy Group, Bloomberg, CME.

The Mix of Policies Will be the Key Factor Under a Trump Presidency

1. S&P 500 Foreign Revenue Exposure in 2023



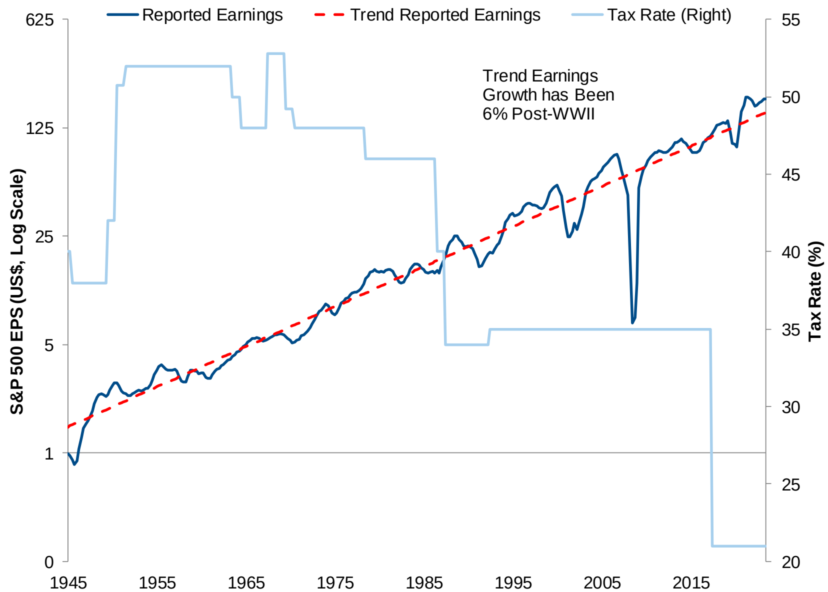
2. S&P 500 Price Index vs. Major Tariff Announcements in 2019

- An extension of the TCJA (Tax Cut and Jobs Act of 2017), a further cut in the corporate tax rate and deregulation efforts could be bullish for equities under a Trump presidency.
- But these positive effects could be offset by inflationary trade policies and immigration/deportation mandates.
- The mix of these policies will ultimately dictate the market reaction.
- Note trade policy announcements did cause equity volatility in 2019, but both the magnitude and duration of the pullbacks was limited.
- This likely reflected the S&P 500's low 28% foreign revenue exposure (only 2% to China), which helped mitigate the tariff impact.

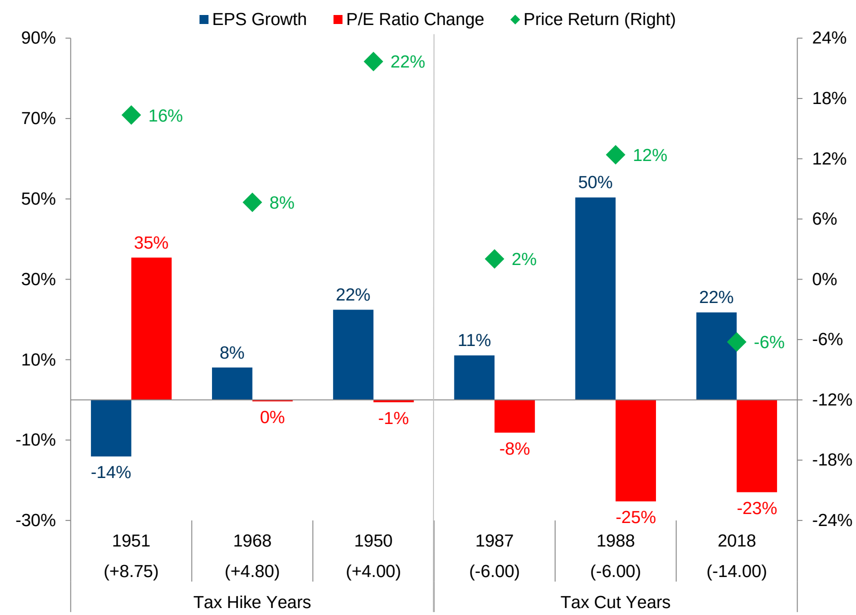
Source: Investment Strategy Group, Goldman Sachs Global Investment Research, Bloomberg.

Macroeconomic Fundamentals are More Important to the Equity Market Than Corporate Tax Rate Changes

1. S&P 500 Earnings vs. US Corporate Tax Rate



2. S&P 500 Earnings Growth, Multiple Change, and Price Return in Major Corporate Tax Hike/Cut Years[1]

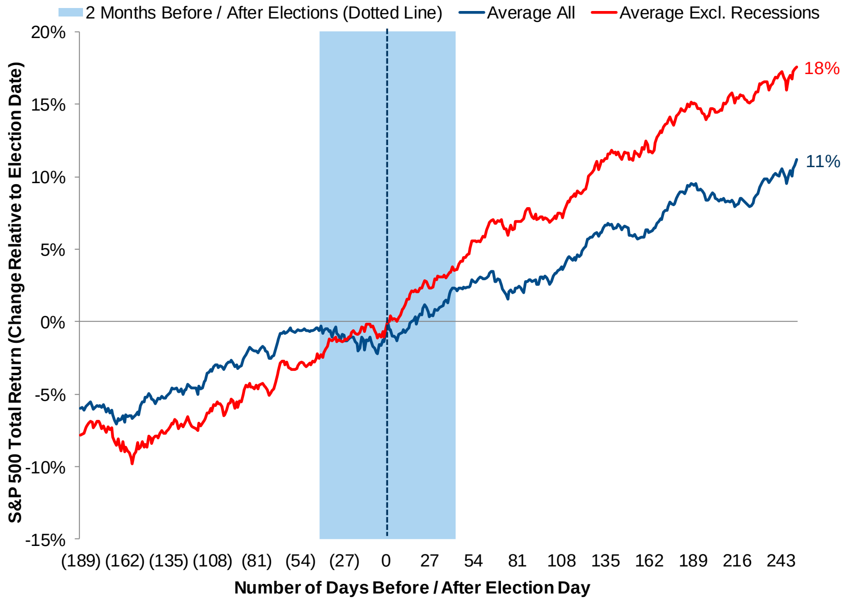


- Investors worry Harris could hike corporate taxes from 21% to 28%, while a Republican sweep could bring even further tax cuts.
- But shifts in the corporate tax rate do not change companies' fundamental earning power, seen in the steady long-term trend in S&P 500 earnings despite very different tax rates.
- For this reason, changes in the P/E ratio investors are willing to pay frequently offset a portion of the shift in the level of corporate earnings arising from tax policies.
- Regardless of the tax shift, S&P 500 returns were typically positive provided the economic expansion continued.

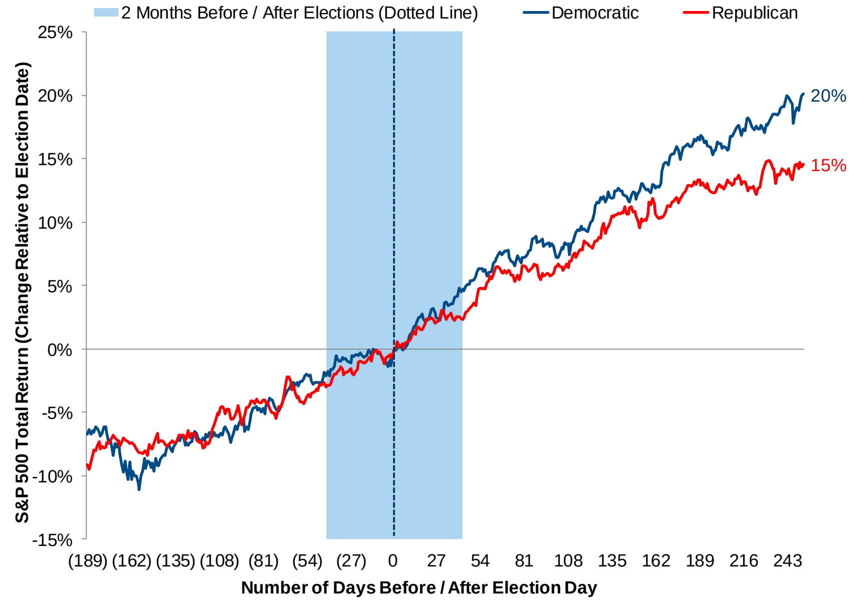
(1) Major tax hike/cut years are the years where the statutory corporate tax rate changes by at least 4 percentage points.
Data since 1945. Past performance is not indicative of future result, which may vary.
Source: Investment Strategy Group, S&P Global, Haver Analytics, Bloomberg.

Outside of Recession, US Equities Produced Favorable Returns Following Presidential Elections Regardless of the Winning Party

1. S&P 500 Total Return Before and After Election Days, Since WWII



2. S&P 500 Total Return Before and After Election Days – Democratic vs. Republican President Win, Since WWII & Excl. Recessions



- Whether the economy fell into a recession was a more important driver of equity returns than presidential elections.
- The S&P 500 has generated an average total return of 18% in the year following past post-WWII presidential elections that didn't result in a recession, with 82% odds of a gain.
- Note the difference in 1-year returns following a Democratic vs. Republican presidential win has not been statistically significant.

Past performance is not indicative of future result, which may vary.
Source: Investment Strategy Group, Bloomberg.

Key Takeaways

- We expect only small changes to the overall fiscal stance after the election regardless of the winner. The deficit is likely to remain wide. A sweep for either party has the most potential for some fiscal expansion.
- If Trump wins, tariffs are likely to be the most immediate macro issue. A significant increase in tariffs is likely to initially be inflationary, but trade uncertainty is likely to weigh on growth. In most scenarios we don't see a significantly more hawkish Fed.
- Net immigration is likely to decline in all scenarios, meaning potential growth falls from its recent elevated rate. In our view, only severe and abrupt deportation schemes would meaningfully increase inflation.
- We expect US Bond yields to move higher in response to a Republican Presidential win, however we believe curves will flatten in this scenario as tariffs, rather than fiscal policy, will be the more important rates market driver, in our view.
- Given that most election scenarios are likely to result in relatively modest moves in US Bond Yields, we still recommend that clients stay invested in high quality fixed income in line with their strategic duration target, which for a US taxable moderate portfolio is 4yrs.
- Several fiscal and trade policy proposals being discussed during the presidential campaign have the potential to support the dollar while Republican critiques of Fed independence represent greenback headwinds.
- History reminds us that macroeconomic fundamentals, and whether the economic expansion continues, are far more important to US equities than who wins the election or changes to tax rates.
- Outside of recessions, US equities produced favorable returns following presidential elections regardless of the winning party.

Source: Investment Strategy Group.

Appendix and Disclosures

Markets Monitor

Goldman Sachs

	1Y Price Range	8/13/2024	WTD	Last Week[1]	YTD
S&P 500		**5,434**	**1.7%**	**0.0%**	**13.9%**
Comm Svcs		299	0.8%	0.8%	21.5%
Cons Disc		1,428	2.1%	-1.0%	0.7%
Cons Staples		848	0.0%	-0.3%	11.2%
Energy		683	-0.5%	1.2%	6.7%
Financials		706	0.4%	0.5%	12.8%
Health Care		1,761	0.8%	-0.6%	10.7%
Industrials		1,057	0.6%	1.2%	9.6%
Info Tech		4,174	3.9%	-0.2%	22.9%
Materials		561	0.6%	-1.7%	4.0%
Real Estate		262	0.1%	-0.2%	4.3%
Utilities		376	0.7%	-0.9%	16.8%
NASDAQ		**17,188**	**2.6%**	**-0.2%**	**14.5%**
VIX		**18.12**	**(2.25)**	**(3.02)**	**5.67**
3M Yield		5.18%	-0.03%	0.03%	-0.16%
1yr Yield		4.39%	-0.09%	0.12%	-0.37%
10yr Yield		3.84%	-0.10%	0.15%	-0.04%
30yr Yield		4.16%	-0.06%	0.11%	0.13%
HY Spread (bps)		345	6	-20	22
3M LIBOR		5.38%	0.00%	-0.12%	-0.22%

	1Y Price Range	8/13/2024	WTD	Last Week[1]	YTD
MSCI AC World		**963**	**1.4%**	**-0.1%**	**10.9%**
MSCI EAFE		**1,467**	**1.1%**	**-0.3%**	**5.3%**
TOPIX		2,554	2.8%	-2.1%	7.9%
Euro Stoxx 50		4,695	0.4%	0.8%	3.8%
DAX		17,812	0.5%	0.3%	6.3%
FTSE MIB		32,006	0.7%	-0.7%	5.5%
FTSE 100		8,235	0.8%	-0.1%	6.5%
MSCI EM		**66,322**	**0.7%**	**-0.3%**	**7.8%**
MSCI China		57	0.9%	1.5%	1.3%
MSCI India		2,944	-0.2%	-1.4%	18.3%
MSCI Brazil		319,365	1.5%	3.4%	-4.7%
USD Trade Weighted		89.13	-0.4%	-0.3%	2.0%
EUR		1.0993	0.7%	0.1%	-0.4%
JPY		146.84	-0.2%	-0.1%	-3.9%
GBP		1.2862	0.8%	-0.3%	1.0%
EM Currencies[2]			0.0%	0.7%	0.1%
CNH		7.1480	0.4%	-0.1%	-0.3%
WTI Crude Oil		78.35	2.0%	4.5%	9.4%
Gold Spot Price		2,465	1.4%	-0.5%	19.5%

1Y Low — 1Y High

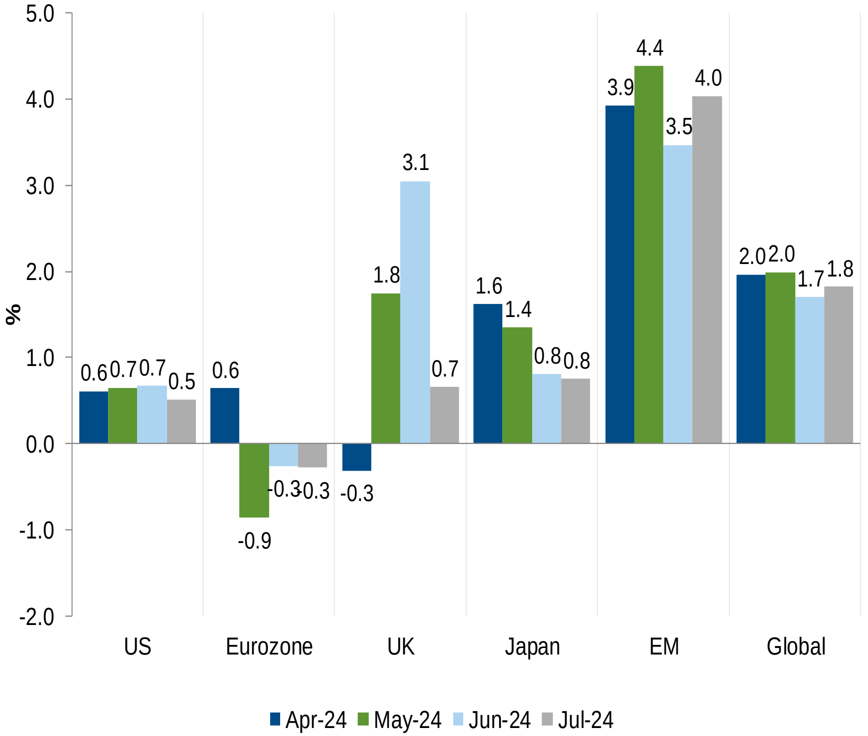
(1) "Last Week" refers to the calendar week ending on the previous Friday. (2) Based on the MSCI EM Currency index. All returns on this page are shown in local-currency terms. Source: Investment Strategy Group, Bloomberg.

Economics Monitor

1. Key Economic Data Releases: August 7-13, 2024

	Period	Actual	Survey	Prior
Initial Jobless Claims	3-Aug	233k	240k	249k
Continuing Claims	27-Jul	1875k	1875k	1877k
Wholesale Inventories MoM	Jun F	0.2%	0.2%	0.2%
PPI Final Demand MoM	Jul	0.1%	0.2%	0.2%
PPI Ex Food and Energy MoM	Jul	0.0%	0.2%	0.4%
Eurozone Data	**Period**	**Actual**	**Survey**	**Prior**
Germany ZEW Survey Expectations	Aug	19.2	--	34.2
United Kingdom Data	**Period**	**Actual**	**Survey**	**Prior**
ILO Unemployment Rate 3Mths	Jun	4.2%	4.5%	4.4%
Japan Data	**Period**	**Actual**	**Survey**	**Prior**
PPI YoY	Jul	3.0%	3.1%	2.9%
China Data	**Period**	**Actual**	**Survey**	**Prior**
PPI YoY	Jul	-0.8%	-0.9%	-0.8%
CPI YoY	Jul	0.5%	0.3%	0.2%

2. GIR Current Activity Indicators



Note: For all data (ex-inflation): Green is for when the actual data is more favorable than the survey. Red is for when the actual data is less favorable than the survey. For inflation data: green is for when actual data is closer to the 2% target than the survey. Red is for when the actual data is further away from the 2% target than the survey.
Source: Investment Strategy Group, Bloomberg, Goldman Sachs Global Investment Research.

Important Information

Our Relationship with Clients. Goldman Sachs & Co. LLC ("we," "us," and "GS&Co.," and together with its affiliates, "Goldman Sachs" or "GS") is registered with the Securities and Exchange Commission ("SEC") as both a broker-dealer and an investment adviser and is a member of the Financial Industry Regulatory Authority ("FINRA") and the Securities Investor Protection Corporation ("SIPC"). We predominantly offer investment advisory and brokerage services to retail investors through our Wealth Management business unit, which includes Private Wealth Management ("PWM"). How we are compensated by you may change over time and will depend on various factors. Please ask questions and review the GS&Co. Form CRS and GS&Co. Relationship Guide/Regulation Best Interest disclosures (available at: https://www.goldmansachs.com/disclosures/customer-relationship-summary-form-crs/index.html) for important information, including the difference between advisory and brokerage accounts, compensation, fees, conflicts of interest, and our obligations to you. We are part of a full-service, integrated investment banking, investment management, and brokerage firm. Other firm businesses may implement investment strategies that are different from the strategies used or recommended for your portfolio.
Intended Audience. This material is generally intended for clients of PWM and/or prospective clients who would meet the eligibility requirements to be clients of PWM. If you have any questions on whether this material is intended for you, please contact your PWM Team. Materials that discuss advisory services are generally intended for individuals who are Qualified Clients as defined under Rule 305-3 of the Investment Advisers Act of 1940. Materials that discuss alternative investment products are generally intended for recipients who qualify as Accredited Investors as defined in the Securities Act of 1933. GS&Co. considers client suitability, eligibility, and sophistication when distributing marketing materials; not all materials are appropriate for all GS clients. Distribution is premised on the reasonable belief that the recipient has sufficient financial expertise and/or access to resources to independently analyze the information presented. If you do not believe you meet these criteria, please disregard and contact your PWM Team.
Entities Providing Services. Investment advisory and/or financial counseling services may be provided by GS&Co., an affiliate, or an external manager under the wrap program sponsored by GS&Co. Affiliates may include but are not limited to The Ayco Company, L.P. ("Goldman Sachs Ayco") (a wholly-owned subsidiary of The Goldman Sachs Group, Inc. or "GS Group"); or another affiliate. Brokerage services are provided by GS&Co. Banking and payment services (including check-writing, ACH, direct debit, and margin loans) are provided or facilitated by GS [illegible] ver-The-Counter ("OTC") derivatives, foreign exchange forwards, and related financing are offered by GS&Co. Trust services are provided by The Goldman Sachs Trust Company, N.A. or The [illegible] an Sachs Trust
Company of Delaware. Deposit products, mortgages, and bank loans are offered by Goldman Sachs Bank USA, member Federal Deposit Insurance Corporation ("FDIC") and an Equal Housing Lender. GS&Co. and its present and future affiliates may offer and provide through the GS Family Office ("GSFO") offering—or through a client referral to third parties—a suite of personal family office services ("GSFO Services") specifically designed for certain Wealth Management ("WM") clients of GS. As part of GSFO Services, GSFO may discuss with you various aspects of financial planning, including but not necessarily limited to the potential income tax consequences of your investments, estate planning, philanthropic endeavors, and certain other activities that may affect your income tax, gift tax and estate tax. GSFO Services vary among clients, are provided based on individual client needs and preferences, and are generally limited to educational consultations that should not be viewed as tax or legal advice. GSFO does not provide investment advice, investment management services, or advise on or offer the sale of insurance products. GSFO Services are offered in the United States through GS&Co. but may also be provided in part by Goldman Sachs Ayco. Goldman Sachs Ayco may, separately and distinctly from GSFO Services, provide tax and insurance advice in addition to personal family office services ("Ayco Family Office Services"). We encourage you to clearly establish your set of services with your advisory team.
Investment Strategy Group ("ISG"). The Investment Strategy Group, part of the Asset & Wealth Management business ("AWM") of GS, focuses on asset allocation strategy formation and market analysis for GS Wealth Management. Any information that references ISG, including their model portfolios, represents the views of ISG, is not financial research and is not a product of GS Global Investment Research ("GIR") and may vary significantly from views expressed by individual portfolio management teams within AWM, or other groups at GS. ISG Model Portfolios are provided for illustrative purposes only. Your actual asset allocation may look significantly different based on your particular circumstances and risk tolerance. Model performance, if included, is provided based on our reasonable belief that you have sufficient financial expertise and/or access to resources to independently analyze the information presented. If you do not believe you meet these criteria, please disregard and contact your PWM team. Model portfolio performance calculations assume that (1) each asset class was owned in accordance with the recommended weight; (2) all tactical tilts were tracked at the time the recommendation was made; and (3) the portfolios are rebalanced at the end of every quarter. Model performance is calculated using the daily returns (actual or interpolated) of indices that ISG believes are representative of the asset classes included in the model. Results shown reflect the total return but may not consider any investment management fees, commissions or other transaction expenses, which would reduce returns. Private asset outperformance is measured using public proxies obtained for each sub-asset class using the modified public market equivalent method. Hedge fund indices and data from Cambridge Associates are net of manager fees. The results shown reflect the reinvestment of dividends and other earnings. All returns are pre-tax and are not adjusted for inflation. Additional information about the model portfolio performance calculations is available upon request.
Investment Risks and Information. GS&Co. offers a range of products that you should carefully consider for their unique terms and risks prior to investing to ensure they are appropriate for your individual circumstances. Below are descriptions of major risks for our more complex products; please review the offering documents and product prospectuses for particular products, as well as additional information about the nature and risks of these and other products in GS&Co.'s ADV Part 2A Brochure and PWM Relationship Guide. Investing involves the risk of loss.

- ***Alternative Investments ("AI").*** AIs may involve a substantial degree of risk, including the risk of total loss of capital, use of leverage, lack of liquidity, and volatility of returns. Private equity, private credit, private real estate, hedge funds, and AI investments structured as private investment funds are subject to less regulation than other types of pooled vehicles. Review the Offering Memorandum, Subscription Agreement, and any other applicable offering documents for risks, potential conflicts of interest, terms and conditions and other disclosures.
- ***Commodities***. The risk of loss in trading commodities can be substantial due, but not limited, to lack of liquidity, volatile political, market, and economic conditions, and abrupt changes in price which may result from unpredictable factors including weather, labor strikes, inflation, foreign exchange rates, etc. Due to the use of leverage, a small move against your position may result in a loss that may be larger than your initial deposit.
- ***Currencies.*** Currency exchange rates can be extremely volatile, particularly during times of political or economic uncertainty. There is a risk of loss when an investor has exposure to foreign currency or holds foreign currency traded investments.

Important Information

- ***Digital Assets / Cryptocurrency.*** Digital assets regulation is still developing across all jurisdictions and governments may in the future restrict the use and exchange of any or all digital assets. Digital assets are generally not backed nor supported by any government or central bank, are not FDIC insured and do not have the same protections that U.S. or other countries' bank deposits may have and are more volatile than traditional currencies. Transacting in digital assets carries the risk of market manipulation and cybersecurity failures such as the risk of hacking, theft, programming bugs, and accidental loss. Differing forms of digital assets may carry different risks. The volatility and unpredictability of the price of digital assets may lead to significant and immediate losses.
- ***Over-the-Counter ("OTC") Derivatives.*** OTC derivatives are illiquid as there is no public market. The price or valuation of each OTC derivative transaction is individually negotiated between GS&Co. and each counterparty, and GS&Co. does not represent or warrant that the prices for which it offers OTC derivative transactions are the best prices available. You may therefore have trouble establishing whether the price you have been offered for a particular OTC derivative transaction is fair. OTC derivatives may trade at a value that is different from the level inferred from interest rates, dividends, and the underlier due to factors including expectations of future levels of interest rates and dividends, and the volatility of the underlier prior to maturity. The market price of the OTC derivative transaction may be influenced by many unpredictable factors, including economic conditions, GS creditworthiness, the value of any underliers, and certain actions taken by GS. Because GS may be obligated to make substantial payments to you as a condition of an OTC derivative transaction, you must evaluate the credit risk of doing business with GS. Depending on the type of transaction, your counterparty may be GS&Co. or another GS affiliate. Counterparties may be subject to different rules depending on whether they are a registered U.S. broker dealer. OTC derivative transactions with GS affiliates cannot be assigned or transferred without GS's prior written consent. The provisions of an OTC derivative transaction may allow for early termination and, in such cases, either you or GS may be required to make a potentially significant termination payment depending upon whether the OTC derivative transaction is in-the-money at the time of termination. You should carefully review the Master Agreement, including any related schedules, credit support documents, addenda, and exhibits. You may be requested to post margin or collateral at levels consistent with the internal policies of GS to support written OTC derivatives
- ***Emerging Markets and Growth Markets.*** Emerging markets and growth markets investments involve certain considerations, including political and economic conditions, the potential difficulty of repatriating funds or enforcing contractual or other legal rights, and the small size of the securities markets in such countries coupled with a low volume of trading, resulting in potential lack of liquidity and price volatility.
- ***Non-US Securities.*** Non-US securities investments are subject to differing regulations, less public information, less liquidity, and greater volatility in the countries of domicile of the security issuers and/or the jurisdiction in which these securities are traded. In addition, investors in securities such as ADRs/GDRs, whose values are influenced by foreign currencies, effectively assume currency risk.
- ***Options.*** The purchase of options can result in the loss of an entire investment and the risk of uncovered options is potentially unlimited. You must read and understand the current Options Disclosure Document before entering into any options transactions. The booklet entitled Characteristics and Risk of Standardized Options can be obtained from your PWM team or at http://www.theocc.com/components/docs/riskstoc.pdf. A secondary market may not be available for all options. Transaction costs may be significant in option strategies that require multiple purchases and sales of options, such as spreads. Supporting documentation for any comparisons, recommendations, statistics, technical data, or other information will be supplied upon request.
- ***Real Estate.*** Real estate investments, including real estate investments trusts ("REITS") and non-traded REITS, involve additional risks not typically associated with other asset classes. Such investments (both through public and private markets) may be subject to changes in broader macroeconomic conditions, such as interest rates, and sensitivities to temporary or permanent reductions in property values for the geographic region(s) represented. Non-traded REITS may carry a higher risk of illiquidity, incomplete or nontransparent valuations, dilution of shares, and conflicts of interest.
- ***Structured Investments.*** Structured investments are complex and investors assume the credit risk of the issuer or guarantor. If the issuer or guarantor defaults, you may lose your entire investment, even if you hold the product to maturity. Structured investments often perform differently from the asset(s) they reference. Credit ratings may pertain to the credit rating of the issuer and are not indicative of the market risk associated with the structured investment or the reference asset. Each structured investment is different, and for each investment you should consider 1) the possibility that at expiration you may be forced to own the reference asset at a depressed price; 2) limits on the ability to share in upside appreciation; 3) the potential for increased losses if the reference asset declines; and 4) potential inability to sell given the lack of a public trading market.
- ***Tactical Tilts***. Tactical tilts may involve a high degree of risk. No assurance can be made that profits will be achieved or that substantial losses will not be incurred. For various reasons, GS may implement a tactical tilt, invest in an affiliated fund that may invest in tactical tilts, or unwind a position for its client advisory accounts or on its own behalf before your advisor does on behalf of your account, or may implement a tactical tilt that is different from the tactical tilt implemented by advisors on client accounts, which could have an adverse effect on your account and may result in poorer performance by your account than by GS or other client accounts.
- ***U.S. Registered Mutual Funds / Exchange Traded Funds ("ETFs") or Exchange Traded Notes ("ETNs").*** You should consider a fund's investment objectives, risks, and costs, and read the summary prospectus and/or the Prospectus (which may be obtained from your PWM Team) carefully before investing. You may obtain documents for ETFs or ETNs for free by 1) visiting EDGAR on the SEC website at http://www.sec.gov/; 2) contacting your PWM Team; or 3) calling toll-free at 1-866-471-2526. Unlike traditional mutual funds, ETFs can trade at a discount or premium to the net asset value and are not directly redeemable by the fund. Leveraged or inverse ETFs, ETNs, or commodities futures-linked ETFs may experience greater price movements than traditional ETFs and may not be appropriate for all investors. Most leveraged and inverse ETFs or ETNs seek to deliver multiples of the performance (or the inverse of the performance) of the underlying index or benchmark on a daily basis. Their performance over a longer period of time can vary significantly from the stated daily performance objectives or the underlying benchmark or index

Important Information

due to the effects of compounding. Performance differences may be magnified in a volatile market. Commodities futures-linked ETFs may perform differently than the spot price for the commodity itself, including due to the entering into and liquidating of futures or swap contracts on a continuous basis to maintain exposure (i.e., "rolling") and disparities between near term future prices and long term future prices for the underlying commodity. You should not assume that a commodity-futures linked ETF will provide an effective hedge against other risks in your portfolio.

Security-Specific References. References to a specific company or security are intended solely as examples or for context and are not research or investment advice; do not rely upon them in making an investment decision. GS may have a relationship with such companies and/or its securities that may present conflicts of interest. Contact your PWM Team for further information on any securities mentioned.

Off-Platform Investments. If you ask us for guidance on external investment opportunities not offered by GS, any information we may provide is as an accommodation only and we will not be acting as your advisor. We assume no obligation to determine whether the opportunity is suitable for you in connection with such investment decisions and will not assume any liability for such investment decisions. Our Form ADV has information on conflicts of interest we may have in connection with any such requests.

ISG/GIR Forecasts. Economic and market forecasts presented ("forecasts") generally reflect either ISG's or GIRs views and are subject to change without notice. Forecasts do not consider investment objectives, restrictions, tax and financial situations or other needs of any specific client. Forecasts are presented for educational purposes and are subject to high levels of uncertainty that may affect actual performance and represents only one of a broad range of possible outcomes. Forecasts and any return expectations are as of the date of this material, and do not project returns of any given investment or strategy. Forecasts are estimated based on capital market assumptions using historical analysis of applicable underlying relevant indices taking into consideration variables that may impact the sub-asset class including but not limited to geopolitical factors, potential for recession, and/or revenue growth. Estimates are subject to significant revision and may change materially as economic and market conditions change. Any case studies and examples are for illustrative purposes only. If applicable, a copy of the GIR Report used for GIR forecasts is available upon request. Forecasts do not reflect advisory fees, transaction costs, and other expenses a client would have paid, which would reduce return.

Client Specific Markets. Investments held in your name with a subcustodian in the local market where traded in order to comply with local law will be indicated on your statements.

Performance / Estimated Income / Estimated Cash Flow. Past performance is not a guide of future results and may include investments no longer owned in current or closed accounts. Current performance may be lower or higher than the performance data quoted. Where not relevant or representative, outliers may be excluded. To request the most current or historical performance data, or asset classification schema information, please contact your PWM team at the number provided on your monthly statement or toll-free in the U.S. at 1-800-323-5678. Performance reports, where shown, generally present the relevant time weighted performance, which is a combination of daily returns compounded over a specified time period with the removal of the deposit and withdrawal impacts and may show internal rate of return calculations where requested. Aggregate performance may not equal the sum of returns at an investment level. Where performance is shown net of fees, actual fees may differ. Net performance for advisory accounts is calculated net of fees and expenses that were or would have been paid in connection with GS's services, including management fees, and might include investments for which actual market prices are not currently available. If included, estimated income figures and estimated private equity future cash flows are estimates of future activity, and actual results may vary substantially. GS&Co. has adjusted performance calculations for certain asset classes or strategies and may do so in the future. Performance of net cash (i.e., cash less margin debit) is generally included in the total performance calculation but not displayed separately. Option performance is included in the performance of the asset class of the underlier.

Offer to Provide Additional Performance Information. Where GS provides you with the results of a subset of investments extracted from a portfolio ("extracted performance"), you may request the performance results of the total portfolio. Where GS provides you with illustrative performance regarding private fund investments that was not actually achieved by GS ("hypothetical performance"), you may request additional information regarding the risks and limitations of using such performance.

Indices / Benchmarks. References to indices, benchmarks, or other measures of relative market performance over a specified period are informational only and are not predictions or guarantees of performance. In addition to the benchmark assigned to a specific investment strategy, other benchmarks ("Comparative Benchmarks") may be displayed, including ones displayed at your request. Managers may not review the performance of your account against the performance of Comparative Benchmarks. Where a benchmark for a strategy has changed, the historical benchmark(s) are available upon request. Inception to date ("ITD") returns and benchmark/reference portfolio returns may reflect different periods. ITD returns for accounts or asset classes only reflect performance during periods in which your account(s) held assets and/or were invested in the asset class. The benchmark or reference portfolio returns shown reflect the benchmark / portfolio performance from the date of inception of your account or your initial investment in the asset class. If displayed, estimated income figures are estimates of future activity obtained from third party sources.

Indices are unmanaged and investors cannot directly invest in them. The figures for the index reflect the reinvestment of all income or dividends, as applicable, but may not always reflect the deduction of any fees or expenses which would reduce returns. Where appropriate, relevant index trademarks or index information has been licensed or sub-licensed for use. Inclusion of index information does not mean the relevant index or its affiliated entities sponsor, endorse, sell, or promote the referenced securities, or that they make any representation or warranty regarding either the advisability of investing in securities or the ability of the index to track market performance.

Pricing and Valuations. Prices do not necessarily reflect realizable values and are based on information considered to be reliable but are not guaranteed for accuracy, currency, or as realizable values. Certain positions may be provided by third parties or may appear without a price if GS is unable to obtain a price and/or the security is not actively traded for a certain amount of time. Pricing sources and methods are available upon request and are subject to change.

Consolidated Reporting and Third Party Investments. Where GS provides a consolidated report or references information regarding your non-GS investments held by third party custodians, such information provided as a courtesy for informational purposes only; it is not your official statement. Such information (including valuation) is based on information provided by you and is as of the date

Important Information

of any materials/information provided to us. GS does not perform review or diligence on, independently verify the accuracy of information regarding, or provide advice on such non-GS investments; GS assumes no responsibility for the accuracy of the source information and such assets may not be included on GS's books and records. Unless otherwise agreed in writing, we have not assessed whether those investments fit within your investment objective and the asset classification shown may not be accurate and/or may differ from your custodian or external adviser's classification. You should maintain the original source documents (including third party financial statements) and review them for any notices or relevant disclosures. Assets held away may not be covered by SIPC.

Tax Information. GS does not provide legal, tax or accounting advice, unless explicitly agreed in writing between you and GS, and does not offer the sale of insurance products. You should obtain your own independent tax advice based on your circumstances. The information included in this presentation, including, if shown, in the Tax Summary section, does not constitute tax advice, has not been audited, should not be used for tax reporting, and is not a substitute for the applicable tax documents, including your Form 1099, Schedule K-1 for private investments, which we will provide to you annually, or your monthly GS account statement(s). The cost basis included in this presentation may differ from your cost basis for tax purposes. Information regarding your AIs and transactions for retirement accounts are not included in the Tax Summary section.

Notice to ERISA / Qualified Retirement Plan / IRA / Coverdell Education Savings Account (collectively, "Retirement Account") Clients: Information regarding your Retirement Account(s) included in this presentation is for informational purposes only and does not constitute investment or other advice or a recommendation relating to any investment or other decisions, and GS is not a fiduciary or advisor with respect to any person or plan by reason of providing the presentation including under the Employee Retirement Income Security Act of 1974 or Department of Labor Regulations. Unless GS agrees otherwise, any target allocation shown for such Retirement Account represents decisions you have communicated to GS regarding such asset allocation, without any advice or recommendations from GS, after considering your financial circumstances, objectives, risk tolerance and goals.

GSFO Services. Where GS&Co. provides or refers GSFO Services, it does so based on individual client needs. Not all clients will receive all services and certain activities may fall beyond the scope of the GSFO Services. Any asset management services provided are governed by a separate investment management agreement (as may be applicable). Personnel providing GSFO Services do not provide discretionary management over client investments. Where GSFO provides art or collectibles advisory services, such services are generally limited to education; GS does not recommend purchasing art or collectibles as an investment strategy, provide formal or informal appraisals of the value of, or opine on the future investment potential of, any specific artwork or collectible. Any discussions of pending legislation, or hypothetical projections based on same, are educational and should not be construed as or relied upon as investment, tax, or legal advice. Upon your request, the Family Office team may discuss with you various aspects of financial planning; the scope of such planning services will vary among clients and may only include episodic and educational consultations that should not be viewed as tax advice. GS&Co. assumes no duty to take action pursuant to any recommendations, advice, or financial planning strategies discussed with you as part of GSFO Services. It is your responsibility to determine if and how any such recommendations, advice, or financial planning strategies should be implemented or otherwise followed, and you are encouraged to consult with your own tax advisor and other professionals regarding your specific circumstances. GS is not liable for any services received from your independent advisors or the results of any incident arising from any such services or advice. Cybersecurity consultations provided by GS&Co. are intended to provide a general overview of cyber and physical security threats, but are not comprehensive; GS is not liable for any incident following such consultations. GS&Co. is not liable for clients' ultimate selection and utilization of any Third Party Vendor for any GSFO Services, or the results of any incident arising from any such referral. GS&Co. is not responsible for the supervision, monitoring, management, or performance of such Third Party Vendors and is not liable for any failure of Third Party Vendors to render services or any losses incurred as a result of such services. Ayco Family Office Services may also be offered through Goldman Sachs Ayco. These services are separate and distinct from those services provided by GSFO, and may vary substantially.

Other Services. Any provided financial planning services, including cash flow analyses based on information you provide, are hypothetical illustrations of mathematical principles and are not a prediction or projection of performance of an investment or investment strategy. Certain illustrations may be predicated on an Investment Analysis tool, an interactive technological tool that produces simulations and statistical analyses that present the likelihood of various investment outcomes based on client input. Such services may not address every aspect of a client's financial life; topics that were not discussed with you may still be relevant to your financial situation. In providing financial services, GS relies on information provided by you and is not responsible for the accuracy or completeness of any such information, nor for any consequences related to the use of any inaccurate or incomplete information. Where materials and/or analyses are provided to you, they are based on the assumptions stated therein, which are likely to vary substantially from the examples shown if they do not prove to be true. These examples are for illustrative purposes only and do not guarantee that any client will or is likely to achieve the results shown. Assumed growth rates are subject to high levels of uncertainty and do not represent actual trading and may not reflect material economic and market factors that may have an impact on actual performance. GS has no obligation to provide updates to these rates.

Not a Municipal Advisor. Except where GS expressly agrees otherwise, GS is not acting as a municipal advisor and the opinions or views contained in this presentation are not intended to be, and do not constitute, advice, including within the meaning of Section 15B of the Securities Exchange Act of 1934.

Additional Information for Goldman Sachs Ayco Clients. Your team may include individuals from your Goldman Sachs Ayco team. Goldman Sachs Ayco may provide tax advice or other Ayco Family Office Services to certain clients. Goldman Sachs Ayco does not provide brokerage services. As part of its financial counseling services, Goldman Sachs Ayco may provide you with certain reports where similar information contained herein is presented differently. You should view each report independently and raise any questions with your Goldman Sachs Ayco team.

No Distribution; No Offer or Solicitation. This material may not, without GS' prior written consent, be (i) duplicated by any means, or (ii) distributed to any person that is not an employee, officer, director, or authorized agent of the recipient. This material is not an offer or solicitation with respect to the purchase or sale of any security in any jurisdiction in which such offer or solicitation is not authorized, or to any person to whom it would be unlawful to make such offer or solicitation. We have no obligation to provide any updates or changes to this material.

© 2024 Goldman Sachs. All rights reserved.